

REMARKS

Claims 1-21 are pending in this application. Claims 1, 4, 11, 13, and 14 are amended hereinabove. Claims 2, 3, 5, 7, 8, 10, 12, 15, and 17-21 have been cancelled.

In the Office Action, the Examiner stated that claims 18-21 are directed to an invention that is independent or distinct from the invention originally claimed and accordingly were withdrawn from consideration as being directed to a non-elected invention. In an effort to advance prosecution of this case, the Applicants have cancelled claims 18-21 but reserve the right to prosecute the subject matter of these claims in a divisional, continuation, or continuation-in-part at a later date.

In the Office Action, the Examiner rejected claims 1, 3, 5, 6, 8 and 10-17 under 35 §103(a) as being unpatentable over EP 255,381 (EP' 381) in view of Hardy et al. ('035) and further in view of Sicken et al. ('100). This rejection is respectfully traversed.

EP 255,381 discloses a four-component flame retardant blend comprising a dialkylalkanolaminoalkylphosphonate, a poly(organophosphate/phosphonate), a polyhalogenated aromatic flame retardant and alumina trihydrate for use in polyurethane compositions. In contrast thereto, applicants presently claimed flame retardant blend comprises (claims 1, 4, 6, 9, and 11) or consists essentially of (claims 13, 11, and 16) a monomeric halogenated alkylphosphate ester non-aromatic organic flame retardant and an oligomeric organophosphate flame retardant. Thus, in contrast to the flame retardant blend of EP '381, applicants' flame-retardant blend utilizes a non-aromatic halogenated component and an oligomeric organophosphate quite structurally distinct from the poly(organophosphate/phosphonate) flame retardant of EP '381 (compare the chemical structure recited in applicants' claims with the structure at the top of page 3 of EP '381). Moreover, applicants' flame retardant blend does not utilize a dialkylalkanolaminoalkylphosphonate or aluminum trihydrate which are essential components of the EP '381 flame retardant blend. Note that the aluminum trihydrate, for example, comprises from 50-58% of the EP '381 flame retardant blend.

The Examiner acknowledges that EP '381 does not disclose the oligomeric organophosphate used by applicants however states that since Hardy et al. discloses this oligomeric organophosphate to have been a known flame retardant, it would have been obvious

to one of ordinary skill in the art to replace the EP '381 poly(organophosphate/phosphonate) flame retardant with the oligomeric organophosphate of Hardy et al.

Applicants respectfully disagree with the Examiner's position, since as stated above, applicants' oligomeric organophosphates are quite structurally dissimilar to the poly(organophosphate/phosphonate) of EP '381 and more significantly applicants' oligomeric organophosphate flame retardants are additive flame retardants, not reactive flame retardants, in the production of the polyurethane foam compositions while the poly(organophosphate/phosphonate) flame retardants of EP '381 are utilized in a formulation which is reacted with the diisocyanate component in the production of the polyurethane foam. (See page 4, lines 18-44 of EP'381).

Furthermore, as mentioned hereinabove, claims 13, 14 and 16, preclude the incorporation of additional components into the flame retardant blend which would materially affect the basic and novel characteristics of the claimed blend by virtue of the "consisting essentially of" transition language used in these claims. The four-component flame retardant blend of the primary reference includes a reactive dialkylalkanolaminoalkylphosphonate, as well as over 50% by weight of alumina trihydrate. These components are clearly essential to the EP '381 flame retardant blend. It is respectfully submitted that it would not have been obvious to one of ordinary skill in the art to remove these essential components of the primary reference, then replace an aromatic halogenated flame retardant with a non-aromatic halogenated flame retardant and replace a poly(organophosphate/phosphonate) with an oligomeric organophosphate to arrive at the presently claimed blend.

Therefore, in view of all of the foregoing reasons, Applicants respectfully request that the rejection claims 1, 3, 5, 6, 8 and 10-17 under 35 U.S.C. §103 be reconsidered and withdrawn.

In the Office Action, claims 1, 2, 4, 6, 7, 9, 10, 13 and 16 were rejected as being obvious over Biranowski in view of Hardy et al. and further in view of Sicken et al. This rejection is respectfully traversed.

In contrast to the presently claimed invention, Biranowski discloses the use of a reactive polyglycol hydrogen polyphosphonate flame retardant in its blend. This reference is also deemed to be remote from the present intention. Firstly, Biranowski discloses a polyphosphonate flame retardant where the presently claimed flame retardant blend utilizes a oligomeric

organophosphate flame retardant. Secondly, Biranowski discloses the use of a polyglycol hydrogen polyphosphonate, where the presently claimed invention utilizes an oligomeric organophosphate flame retardant that does not contain hydroxyl groups. Thirdly, the polyglycol hydrogen polyphosphonates disclosed in Biranowski are reactive in the production of the polyurethane foams where the oligomeric phosphates of the presently claimed invention are non-reactive additives .

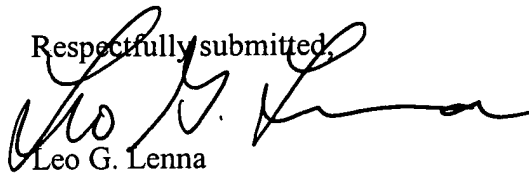
The lack of suggestion in Biranowski to use non-reactive, non-hydroxyl containing oligomeric organophosphate flame retardants as in the presently claimed invention is not cured by the secondary references. In fact, any replacement of the Biranowski's reactive polyglycol hydrogen polyphosphonate compounds by the chemically distinct oligomeric phosphate compounds of Hardy et al. would destroy Biranowski's intent to provide flame retardant blends of a reactive flame retardant and a non-reactive halogen and phosphorous containing flame retardant additive. (See for example the Abstract of Biranowski).

As for Sicken et al., which the Examiner solely relied on for rendering "the use of hydroxyl functional oligomeric phosphate flame retardants" obvious, this reference is no longer applicable since the claims, as presently amended, do not recite an oligomeric organophosphate flame retardant having hydroxyl functional groups.

In view of all of the foregoing reasons, the Applicants respectfully request that the rejection of claims 1, 2, 4, 6, 7, 9, 10, 13 and 16 as being obvious over Biranowski in view of Hardy et al. and further in view of Sicken et al. be reconsidered and withdrawn.

In view of the foregoing, favorable action on the merits and allowance of all claims is respectfully requested.

Respectfully submitted,



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